563 631 They are not vassals like the Irréguénaten and the Ibettenâten, but are incorporated.

563 173 According to a tradition reported by Dr. Richer, (1) the

1. Les Oulliminden, p. 71.

Issekkemâren are the descendants of the family of the Sagmara, pointed out in the Âdrar des Ifôras and in the region of Gao by El Bekri. They were driven back by the Sonrhai invasion and came to take refuge among the northern Tuareg while a small fraction remained in the south in the environs /199/ of Timbuktu and today has a marabout character.

[797] 197 Although they are more Islamized than the other tribes, they are nonetheless Tuaregized in the sense that they follow Tuareg customs and speak Tamashek. Many of them speak Arabic fluently, either [648] because of their origin or because of their constant relations with the Tidikelt.

173 563 631 At the time of the division of the Imrad, some tribes were bestowed upon the Kel Rela, others on the Tâitok and the Tégéhé-Mellet. The tribes attached to the Kel Rela are the Ihéiaouen Hâda, the Kel Immîdir, the Kel Tâzoûlet, the Kel Tâfedest, and the Kel In Rhar'.

563 439 484 233 They are all great caravaneers who trade a great deal on the Tidikelt markets. They own a large number of camels and their camel raising is particularly renowned.

563 [173] The Iheiaouen Hada. -- The Iheiaouen Hada, also called Oulad Elias or Ihéiaouen-n-Temounent, are said to be descended from an Arab woman who was seized at Touat. The word Iheiaouen means in Tamashek "the grandsons of . . . ," so that we must conclude that the people of this tribe are the descendants of a woman named Ada.

They nomadize in the Tâfedest massif near Âdenek, Âbezou, In Takoufi, Eguelougal, and Tidessi. During dry periods they lead [221] their camels to the Saharo-Sudanese borders in the neighborhood of the Tamaïa well.

436 The ideal medium of exchange is the [492] salt which abounds in the Sahara and which is totally lacking in the Sudan. 439 Thus we see a caravan cycle spread out over a whole year and thousands of kilometers. This is all the more viable /sic/ for the Ihaggaren since it makes use of their many camels which otherwise might remain unused in part.

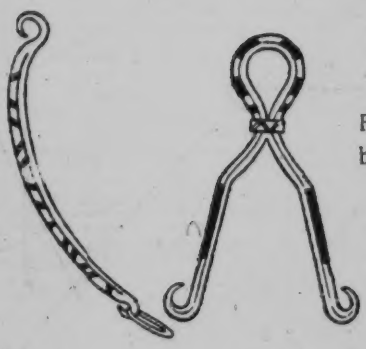


Fig. 22. Camel bit (detail).

317 The starting point is naturally the salt [415] deposit. The mine /219/ is open; one need only detach the salt in pieces and place it in leather bags to transport it. This labor is kept for the Iklan, who arrive at the salt deposits during the summer and [492] stay there from three weeks to a month. Each camel owner operates at will, and transports the salt to his camp after extracting it.

Fig. 23. Device for attaching the camel's bridle.

439 Toward mid-September, all the 484 caravaneers gather together by tribes. Soon they leave their families in the Ahaggar and take the long route [487] for the Sudan, crossing the Tanezrouft. Thus one may see caravans of 100 to 150 camels, but rarely more, for the pasture grounds would not allow it. The arrival in the Sudan must occur after the rainy

season which generally ends with the month of September. 439
When the caravaneers arrive earlier, they wait in the Tamasna 484
region and protect their salt by hiding it in the crags of the rocks.

At any rate they always stay at least two months in that region so that their camels may regain their strength. Then, they go in small groups toward the Damergou where they know people in some villages with whom they exchange their salt for millet. These exchanges are made on variable bases, depending on whether or not the millet harvest has been abundant, or whether the salt has arrived in greater or lesser quantity. Most generally they are made on the basis of one load of salt for three loads of millet, but sometimes in the proportion of one load of salt for ten loads of millet, which is much to the advantage of the Ihăggaren.

[291 177]

Fig. 24. Irratimen sandal of Hausa make, such as the Ihăggaren wear.

[435]

Since they do not have enough camels to carry all this grain back, and since they do not need that much grain in the Ahaggar, they sell or exchange a good part of it for manufactured objects, which are easy to transport and /220/ easy to dispose of -- sandals, saddle bags, camel saddles, leather boxes,

439 cotton clothes, and Sudanese-made lithams /veils/. Then after
484 two months of rest spent in the Sudan, during which time the camels revel in the rich pasture, they all set out again for the Ahaggar, where they arrive from January on. February and March see them leave again for the Tidikelt or Touat. At that time they take only a few camels and exchange the excess manufactured articles which they collected in the Sudan and trade dried mutton for dates. This trip lasts an average of two months, and toward the end of April everyone is back in the Ahaggar, as a rule. There is a rest of a few weeks, and everyone thinks about the next salt campaign he is going to have to prepare.

Thus we see a complete caravan cycle which, by itself, could allow the Tuareg a normal life. But as we have said, it implies a [461] state of peace which was previously the exception, as well as an amount of work to be furnished which is not always in harmony with the warlike tastes of the Imochar.

224 Hunting supplies some employment for the Tuareg, as does gathering. But both of them are only uncertain pastimes, without
221 much profit. The life of the Tuareg may thus be summed up in a few lines: basic animal husbandry doubled by brigandage raised to the state of an institution, and accessorily by some caravaneering. Now we shall see the domestic life of the Tuareg.

/221/ Chapter 2

Dwellings

361 The camp. -- The camp is the traditional Tuareg form of
621 habitation; it is connected with nomadism which always implies animal husbandry. It includes a certain number of people gathered together under a patriarchal authority by very close bonds of kinship.

773 372 the tortures of hell. Iblis, however, communicated his secret to the blacksmiths, who since that time have known how to use it for metalworking.

372 [824] The Tuareg used to obtain fire by friction, using a board of torha (callotropis procera) and a branch of hardwood; they caught the spark on a tuft of silk from the fruit of the callotropis and blew on it until they got a flame, which required about a minute. They have kept this practice and still use it occasionally.

[439 177] Today they find matches sold by /228/ Tamanrasset merchants, but they all have tinderboxes with flint and a bent piece of iron.

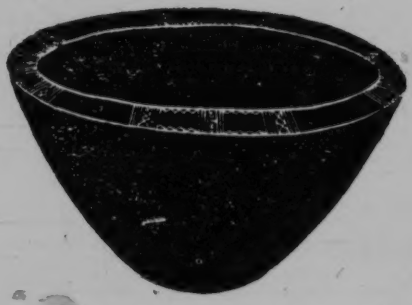


Fig. 27. Ahaggar Tuareg dish, imported from Hausa country.

[415 439] They do not keep up the fire. They carry it from one tent to the other in a fragment of an old gourd or sometimes hold a glowing ember in their hands without burning themselves.

[237 484] When they want to transport it long distances, they use camel-dung embers.

[237] The Tuareg commonly use the excrement of camels and goats as fuel. In the high [35] mountains, wood is quite rare, but in the lower parts of the Koudia old acacia or éthel /atle? Ed./ stumps are to be found. They never [824] use the wood of the callotropis, which is the devil's tree and makes muffled noises when it is burned.

[823] Basalt blocks are never used to make the hearth, since they believe that basalt is possessed by genii and will explode violently when heated.

352 Furniture. -- We have briefly described the objects furnishing the parts of the tent reserved for the husband and wife. To these must be added a certain number of objects which make up the

412 Each mistress of a tent has a little
356 wooden scraper to clean the floor of the tent, which is generally
342 covered with a layer of fine sand taken from the bed of the nearby wadi.

415 Let us add one or two earthen pots, little teapots and tea glasses, and we have an idea of Tuareg furniture, which, as one may realize, is reduced to the simplest terms.

●484 When a camp is moved, all these objects are loaded on asses,
492 provided for the occasion with little pack saddles. The women are
[462] left with folding the baggage, loading it, and transporting it on the
[565] asses. They themselves ride on the baggage during the moving; only noblewomen travel on camel back. Camels are used in moving only if it is a long trip.

/230/

Chapter 3

Food

243 People may have said that the Tuareg, like many herding
262 peoples, lived on the milk from their herds. More precisely, they live on the products of their animals, but milk and meat alone would not be enough. Indeed, the base of their diet is a graminacea, bechena (Sorghum cernuum Host.), a kind of millet cultivated in the Saharian oases and in the Sudan.

[252 The Tuareg eat some wheat, but very rarely. Especially during
484] their moves and in the caravans, they eat wheat cakes cooked in the sand, for they are easily and quickly made.

[101] It is rather curious to note that the Tuareg, who belong culturally to the Mediterranean civilization (which may be called the wheat civilization), have not kept wheat as the basic food as other North African peoples have. And yet the question of food is one of the things which most ties man to his native milieu and which

he generally carries with him in his migrations. Wheat raising goes down to the Sudan as far as Timbuktu, Aïr, and a little north of Nigeria; but everywhere it has been introduced recently, due to the influence of the Arabs, who have not abandoned their traditional food.

Béchena is a food they adopted because of their exodus toward the Sudan; they are at the present time much closer to the Sudan than they are to North Africa from the point of view of material living conditions, that is, unless this plant formerly existed in a self-sown state in the Sahara, as Professor Chevalier has assumed, and was one of the principal food resources of its first inhabitants.

Fig. 29. Caravaneer's mortar and pestle.

By its agriculture and its production, the Sahara is completely Negro. Agricultural methods, except for irrigation, /231/ are borrowed from the Sudanese, especially work with the hoe (daba), while North Africa mainly uses the plow which is unknown in the intertropical zone.

Béchena is eaten as a cooked flour porridge, as raw flour, or mixed with liquids, water or milk.

Dates also play a large part in the diet of the Tuareg. Every year each family head organizes a little caravan to the Touat or Tidikelt to bring back two or three loads of poor-quality dried dates which are crushed with a pestle and eaten with camel's milk.

face to hide their features in front of strangers. During their moves, Ahaggar women use a big, broad-brimmed straw hat -- the téle -- to protect themselves from the sun. 291 [484]

/269/ They wear irratimen on their feet like the men, but more often they go barefoot. In the Sudan, during the rainy season, they replace the leather irratimen by very light wooden irratimen, which fulfill the same function there as wooden shoes do for us.

[84]

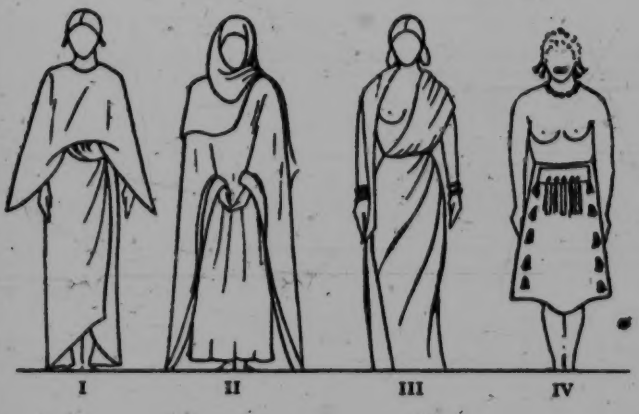


Fig. 40. Costume of Tuareg women.

1) Costume of Aïr Tuareg women, which includes a skirt and a little bolero.
2) Ahaggar Tuareg women's costume, including a skirt and a big gandurah reaching to the feet.
3) Sudanese Tuareg women's costume, including a skirt and a shawl around the shoulders.
4) Leather skirts for servant girls, in use in Ioullimmiden tribes.

In the Ahaggar and the Tassili, men and women wear a large white wool haik to wrap up the head and shoulders. During the cold period of winter they wrap up in a long woolen blanket (dokkali) made by the Arabs in Touat. The latter exchange them with the Ihaggaren for sheep. [439]

the oases of the Tidikelt and Touat which have none. Thanks to the wells of T-i-m-missao and In Ziza, the sheep succeed in crossing the Tanezrouft without too much suffering.

This trace movement is evidently engaged in only during the coolest months of the year, that is, from October to April, and it demands great precautions from the caravaneers.

Here is a list of the wells, starting from Timeîaouine (Ådrar des Iforas), where the animals are watered, as well as the number of days of march between them, according to the information furnished us by El Bak el Fassi, the Amrar of the Kel Ahnet.

	Timeîaouine (well, watering place)		
	I-n-Gezzal	1 day	Ådrar des Iforas
E	Efenargh	1 "	
	In Ouzzal	1 1/2 days	
	Tirek	3 "	Tanezrouft
	Ti-m-missao	2 "	
	Tin Senatet	5 "	
	In Torha	1/2 day	
	Aleg'nenou	5 days	Ahnet
	Tin Khalifa	2 "	
	In Belret	1 day	
	El Khenig	1 1/2 days	Immidir
	In-Salah	3 "	Tidikelt

Or 26 1/2 days' march.

/313/ Depending on whether pasture is more or less abundant, caravaneers suffer more or less losses in their flocks. Sometimes this loss is complete, sometimes it is none at all.

We saw a Kel Ahnet make the trip at the end of the month of April, a period which is not favorable, with 35 sheep and not have to kill more than one of them on the way.

174 in its remotest regions, the result of more intensive goat raising
487 and proof that pastures used to be more numerous than they are today.

492 There are very appreciable differences in the way Tuareg and
484 Arab caravaneers travel. The Arabs always push their camels in front of them; these camels march in a line freely, without any bridle or /head/ rope. The Tuareg, on the other hand, always advance in file, the camels attached one behind the other and guided by a man who takes the head of the convoy by holding one of the animals by the bridle, or else by riding it.

These different methods are imposed for two reasons, both connected with the structure of the terrain. The Arab Sahara is generally a flat country where it is easy to move about and where no natural obstacle opposes the animals' walking. In mountainous country, however, as in the Ahaggar, the narrowness of some trails, particularly going through certain passes, forces them to take precautions to control the camels' march, unless they want to see them crowd up on one another to the detriment of the baggage with which they are loaded. Moreover, pastureage also occurs under different conditions. In the northern Sahara, where the soil consists mainly of calcareous formations, vegetation is always diffuse, which forces the camels to move about a great deal, browsing from one tuft to another. Thus the Arabs have got in the habit of never putting their animals on a lead in order to let them gather tufts of vegetation which are within their reach, all the time they are moving.

In the Ahaggar, as we have had occasion to say, vegetation is, on the contrary, concentrated and sheltered in the valleys where water is hidden under the sandy alluvial deposits. Therefore there is no point in leaving any liberty to the camels; quite the opposite, they must not lose a minute on the trail but must reach

492
484 the pasturing place as rapidly as possible, and so they assure a strictly disciplined march for the caravan.

From this come the two systems of proceeding used respectively by the Arabs and the Tuareg.

486
643
648 /315/ Caravans which used to cross the country of the Ihaggaren were obliged to place themselves under the latter's protection by paying a toll agreed upon in advance. The duty went to the amenokal, but protection was ensured only within the bounds of his authority, which quite often did not go beyond the limits of his own tribe. And so the caravaneer was subject to continual solicitations from the people living on the land he crossed, and it was often very difficult to escape them. A guide was sometimes placed at his disposal and received remuneration in kind.

When the boundary of the territory was reached, the protection stopped there, and the greed of the Tuareg was so great [579] that they sometimes did not hesitate to go pillage outside their territory the caravan they had just protected. This often brought on conflicts from tribe to neighboring tribe, but in the final analysis everything was settled at the expense of the caravaneer.

427
492 Sometimes the Tuareg rented out their camels. Some Tassili tribes made a specialty out of transport between Ghademes and Ghat, while the Issekkemâren agreed to rent their animals between In-Salah and the Sudan. They derived considerable profits from this work.

As a result of these continual deductions in advance, the caravaneer could transport only goods whose trade was very remunerative.

484
674 Caravaneers have a custom of placing provisions needed for their return in the rocks or in sheltered places. These provisions are left without a guard, and nobody would think of taking them.

484 This was observed by Duveyrier, Captain de Bonnemain, and
674 Bou Derba on the Ouargla-Ghat itinerary. We have witnessed similar actions ourselves, but the goods stored in this way belonged to some Ihaggaren, and no one would have dared lay a hand on
[609] them. The thing is less safe in the case of a stranger's property.

When a camel dies en route, the load that it was carrying is left on the spot and put under public protection. The caravaneer is always certain to find his property, even six or eight months later. In this regard, it is well to say that the Tuareg, raiders though they must be, are not thieves. When a theft has been committed in their /316/ country, the guilty party is generally a Negro, but rarely a Tuareg of the white race.

439 What were the products transported? Manufactured goods, for the most part, generally made in Europe. There were fabrics and silks which the Tuareg and the Sudanese eagerly sought, and there were knickknacks, unmounted sword blades, sugar, and coffee
[177 272] (tea only recently made its appearance in the Sahara).

All these goods were resold or exchanged for ten times their value. On the return trip the caravaneers brought back ostrich plumes, gold dust, ivory, and little Negro girls and boys bought as slaves and resold for very high prices in the cities of Algeria. Leather was also the object of an intensive traffic, as well as medications of plant or animal (ostrich fat) origin which were part of the Sudanese pharmacopoeia and much appreciated by the Arabs.

177 Today, except for gold and ivory, which have become rare
439 and whose traffic is in the hands of Europeans, and except for the sale of slaves, which has been forbidden since the French
[486] occupation, trade has remained the same. But the routes have become free and the Tuareg can no longer count on their former profits. There was one resort left, that of making themselves caravaneers in their turn and using their many camels in that way. This is what they have done.

492 adopted by all the Tuareg of the Adrar des Iforas, which the
171 Chaamba Arabs also use, and which is derived from the saddle of the Moors of the western Sahara.

492 Ahaggar noblewomen, who travel only on meharis, have
[565] special saddles resembling the basour of the Arabs but without the arch covered in cloth. These saddles are called akhaoui; they
[322] are made /319/ of wood and ornamented with large pommels in front and small plaques trimmed with copper nailheads on the side.
[531] For long moves these saddles can be provided with a wicker cage covered with cloth, but this is not a common practice.

Saddles hold leather bags which contain either a change of
[415] clothes or food reserves as well as the waterskins constituting the necessary provision for crossing regions without wells.

For transport, camels are provided with a special packsaddle made of palm fibers which literally crowns their backbone. Most of these packsaddles are made in the Tidikelt. For caravans which last a long time the animals are loaded with about 100 kilograms, plus the waterskins that are generally added to the baggage. The servants, who accompany the animals and do not have personal mounts at their disposal, /320/ ride on top as excess weight and make the whole trip under these conditions.

[481] The Tuareg are very poor walkers and cannot conceive of a person's going on foot, even to spare the mount for a few kilometers.

Asses, which as we have said are used for transport within the massif, are provided with a little packsaddle serving as a saddle at the same time. When camp is moved, they are loaded with the
[312] tent, tent stakes, and bags containing food reserves. They also assure the carrying of water from the well to camp.

484 When an Amrid travels alone on a voyage, he takes an ass to
492 carry his water, his small baggage, and his blanket. Pushing the
[481] ass before him, he walks behind carrying his lance over his shoulders. He mounts on it only during the hot hours of the day.

As a rule, an amicable solution is finally reached, but the 728
part of the loot which is returned to the deputation is always
far less than that which was taken. The Tuareg say, "Alal
ouala," that is, "the restitution is never complete."

It may also happen that the raiders refuse to return anything. 721

[411]

Dautheville
Tuareg Shield

The raided tribe, if it [701]
considers itself too weak, 728
solicits the support of
another tribe with which
it has good relations, and
then there is fighting. /56/

When caravans of 484
traders have been raided, 486
since these caravans have 721
usually placed themselves
under the protection of
noble tribes to which they
pay dues, the controversy
is settled between the pro-
tecting tribe and the
raiders' tribe.

In the Ahaggar it seems that the old amenokal, Aïtar'el, 728
established the restitution of loot taken from caravans protected
by the Azdjer in the following manner:

1. Complete restitution of the pack camels taken from the caravans
2. For each load of merchandise taken, one "amadjour" camel for each man who took part in the raid and rode a mehari of his own
3. One "aleggues" (a young camel of three years) or a half-grown camel for each man who borrowed or hired the mehari which he rode in the raid.

The arms of a Tuareg and the harness for his mount have 114
been described in detail by Duveyrier, and there is no need to
review them here. /57/

There are also lucky or unlucky days. The lucky days, 777
those which are recommended for starting on a journey, are [484]
Friday after prayer, Saturday morning, and Monday. /63/
For the lucky day of the month one first counts 2 from the
index finger and, coming back to the index finger, 7, 12,
17, 22, 27.

The unlucky days are Sunday and Wednesday.

The Tuareg also believe in the evil eye, "tahott." 754

An eclipse is the sun's raid on the moon, and vice versa. 821

Finally, there is a very curious custom of which Duveyrier 769
has spoken, which is that of consulting old graves. Usually 787
it is the women who go to consult them. They dress well
and must avoid having on themselves anything of iron or steel,
even a needle. They lie down near the grave, and the
"zabbar" (ogre) inhabiting the grave appears to them in the
form of a giant with eyes as large as a camel's, and gives
them the answers they want. They are consulted especially
in order to get news of absent ones, people gone on a raid
or in a caravan, from whom there has been no news.

Chapter IX

Stock Raising. Flocks

Camels, sheep, and goats constitute the chief resource 233
of the Tuareg, as of all nomads. Camels especially are the
object of all their care, since these give them the greatest
service. They rely greatly on camels, ewes, and goats be- [234]
cause of the milk, of which they drink a great deal, and melted
butter, "oudi," which they make.

They use all the hides: those of camels for sandals, 237
containers for butter, watering troughs, etc.; those of sheep 281
or goats for waterskins and the manufacture of tents, leather
clothes, etc. /64/

and shields; mehari saddles, saddlebags in all shapes of carved and colored leather, little leather boxes, glossy blue cloth, "ilechchane," gandurahs with sleeves, black cloth ("kehal") for veils, and finally "tikamarine," or dry cheeses. In the Aïr saddles for horses are made, shaped like Mexican saddles and having round stirrups of heavy copper covered with leopard-skin (the Amenokal Moussa ag Amastane has one). 439

To the Aïr, and sometimes to the Damergou, they bring salt taken from the sebka of Amadr'or, "chegga bought in the Tidikelt, camels, donkeys, dates bought in the Tidikelt, "teheredjlé" (Hartemisia herbalba, Composeae), etc.

[133]

Crater of the
Ouksem Volcano

3. Adhar and Niger, from which they get bechna, rice, sheep, and camels. They bring in salt, "chegga," and dates.

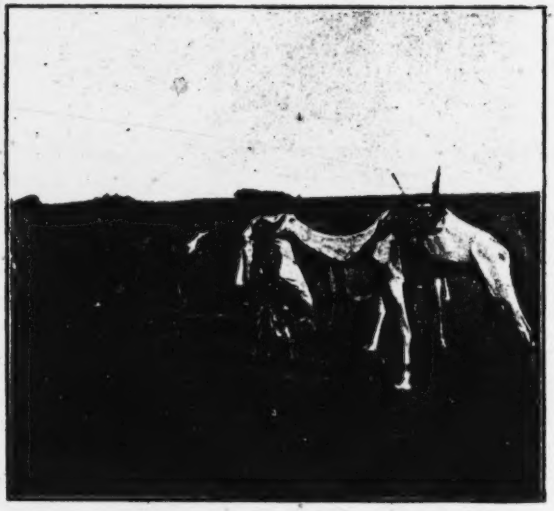
4. Ghat and Ghadames, but seldom. There they buy extra fine burnooses, sabers, sugar, tea, and "chegga." They bring in camels, waterskins, camel-hair ropes, and sheep. /69/

In addition, the people of the Tidikelt, especially the Ahl-Azzi, come to buy wheat and barley on the spot, which they gather into their "ar'erems."

The Tuareg of the Ahaggar would like very much to have, like the Azdjer, the protection of the big caravans which go from Tripoli to Ghat, to the Aïr, and to the Sudan. Thus they would hire out their camels to traders, and this would be an important source of revenue for them (the Aï-Loaïn already hire out their camels toGhat traders). They would very much like to see this current turned toward the Ahaggar, and we have the greatest interest in urging them on this course. 439 484 427

4: Benhazera--61G-5(1905) 1908 MS25 Tuareg MS25
Hoggar

It is to be noted that the Tuareg fasten their camels 233
one behind the other, Indian file, when they go on cara- 484
vans. Thus they are more orderly than /71/ Arab caravans.
In particular, fewer shouts, oaths, etc., are heard. The
Tuareg caravan passes almost silently, without disorder,
and this is all to the good.



Tuareg Caravan

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

133 Massif resembles Ahaggar, but it is on the whole much more level with broader valleys and in between
131 the lower mountains there are clayey plains. Immediately east of the Massif is the very extended sandy desert which is uninhabited. Further south than Adrar-n-Fōras and Ayr there are no considerable mountains. Between the two massifs are the plains of Tamesna and Talak which continue into the plains of the Sudanese savannah.

Tuareg country consists predominantly of rocky mountains and flat, extensive plains of gravel and stone. This configuration is basic to our understanding of Tuareg economy as will become clear when we have outlined the characteristic features of climate.

132 Tuareg country is very hot in summer – so hot that even the nomads born and bred in the country suffer much from the heat at that season. The hottest months are May, June (farthest south) and July (farthest north). During these months temperature may exceed 50° centigrade, and is on average 30°–35°, or higher. In the uppermost mountain zone of Ahaggar nights are comparatively cool even in summer, while in the lower country there is often little difference between day and night temperatures. This is true in particular when, as often happens in summer, the sky is overcast during the night and consequently there is little radiation of the heat absorbed by rocks and sand in daytime. The day temperature in summer is normally higher than the temperature of the human body, and the
494 temperature of sand and rocks will rise to 60°–70°. Travelling is extremely hard under such conditions,
271 and most people spend the day in the shade of rocks and trees, sleeping and drinking water of which an adult person consumes 8–10 litres a day. Violent winds are common in the Sahara most of the year and in particular in the daytime; in summer these winds are usually very hot and add considerably to the discomfort of the climate, as do the numerous flies.

The country of the Northern Tuareg has a rather continental climate characterized by great fluctuations of temperature during the year. Although Tuareg suffer from heat in summer, they do not generally complain much about it, and they consider the comparatively cold winter much worse than the hot summer. In winter, temperature in the country of the Northern Tuareg averages about 10°. The absolute minimum temperature however is very much below this. Thus in Ahaggar the village of Tamanrasset (1400 m) has in January an average temperature of 11,7 , but an absolute minimum of –6,6 . Frost is very common during winter nights, and even snow may fall in the higher parts of Ahaggar at that time of the year. In the country of the Southern Tuareg frost may also occur, but in Southern Ayr around Agadez frost is said to be very rare and snow is unknown; the winter period
511 in the south is on the whole milder than in the north, where the changes between relatively cold and
164 very hot temperatures, allied with inadequate dwellings and clothes, are responsible for pneumonia and similar diseases, which give rise to frequent deaths – especially among children.

The most important climatic distinction between the countries of Northern and Southern Tuareg is due to differences in the annual precipitation as will be seen from the following figures (in m/m) for the annual rainfall 1931–1945 in the territories of seven Tuareg groups:—

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

137
233*
552

Fig. 46. A resting she-camel with the colour name *tawinak*. The colour term of the young she-camel standing in the back-ground is *ténilt*. Ayr, the *Imezzureg* tribe.

In Ayr the Tuareg do not 237
use camel's hide in their crafts, but give it to the blacksmiths who use it for lashing, or to people 564
who manufacture beds from ribs of palm leaves (cf. Fig. 257). The Northern Tuareg use camel-skin 352
for the manufacture of a few household implements and also use it for lashing (cf. p. 84, 110, 222, 824
270 f. & Figs. 70, 86, 132a–b, 161a–d, 162, 213). But even in Ahaggar and Tasilé-n-Ajjer the skin of camels is little used compared with the skin of goats, sheep, and barbary sheep.

When employed in craft, camel's hide is normally used raw and unprepared after soaking in water, 281
but the Ahaggar Tuareg say that for certain purposes the hide is treated with salt. In literature there 114
are many statements about the tanning of camel's hide. Thus it is stated by Cauvet that the hide is tanned with plant material in Algeria, and Cauvet also quotes Duveyrier's statement that the Northern Tuareg tan camel's hide to use it for tents and various other implements (Cauvet 1925–26, I, p. 714 ff.). I very much doubt the correctness of this, as all Tuareg asked about it have stated that the hide of camels is not fitted for proper tanning. Camel's hide is therefore of very limited use to the Tuareg, and the same is the case with camel's hair or wool. Tuareg camels in Ayr have very little wool, and 237
among the Northern Tuareg most animals have less wool than Arab camels of the Northern Sahara. The Northern Tuareg pluck a little wool with the hands or cut it off with a knife. It is spun into cords 283
to be used for certain minor objects, notably for the manufacture of the plaited pouch (*abegu*) to prevent the suckling of calves (p. 62, Fig. 41) and for the particular cord (*asoṛun*) tied around the foreleg of camels to keep them in a reclining position (p. 72, Fig. 45a). Mixed with goat's hair the wool is 286
also used for a kind of primitive weaving (p. 265 ff., Figs. 209a–b).

Camels are very important to the Tuareg as pack-animals for the caravan expeditions which will 492*
be mentioned in a later chapter when other means of subsistence have been described. 484●

In the past camels were also extremely valuable as riding animals on raiding expeditions which 492*
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7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

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*492
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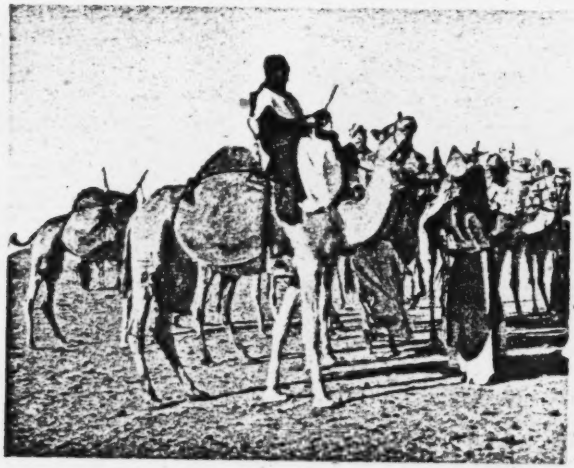

Fig. 68. Tuareg camel riders prepared for a camel-race. The fixed position of the saddles is secured by means of a long cord (*ihwéweren*) tied around the hind part of the camel. Tasilé-n-Ajjer.

*492 [562] The saddle types just mentioned are unknown to the *Kel Ferwan* Tuareg and apparently also to other Tuareg of Ayr. Tuareg of the *Kel Ferwan* drum-group refer to these women's saddles as "Arab saddles", and when their women mount camels on festive occasions they do not use proper saddles but a kind of chair built up upon two very large cushions manufactured by the *Imeggedezen*, and stuffed with hay. The arrangement of this saddle-chair is complicated and it takes some hours to finish it. It is built as follows:— The two large cushions (*éstigen*, sing. *ésteg*) are placed on the camel's back in front and behind the hump. They support a superstructure known as *tésagaley* and made from various objects belonging to the tent in the following way:— (1) Two large and oblong skin-bags are stuffed with hay or old cotton pieces and each of them is wrapped with a coloured blanket to form an oblong parcel. (2) To stay these parcels a rolled bed mat (Fig. 212b) is tied horizontally to each of [285] them, and they are laid parallel with each other on the ground. (3) A very long mat plaited from dum palm leaves is rolled up and wrapped into a coloured blanket or a coloured piece of cotton. It is bent into a U-form and thereupon attached to the two oblong parcels by means of cords. This superstructure is further covered with coloured blankets and pieces of cotton. It is placed upon the two large cushions and tied to them and fastened to the camel by means of cords and girths. When a woman rides in such a saddle-chair she sits behind the animal's hump so that she cannot reach the camel's neck with her feet. The back of the U-formed mat prevents her from falling backwards. The structure *492 of the saddle-chair may be seen from the photographs (Figs. 76–77). It should be understood that a 562 saddle made in so difficult a manner is not used by the women except on festive occasions, such as [569] travelling to attend a marriage or an Islamic feast. Apart from the very few noble women belonging [565] to the two noble tribes within the *Kel Ferwan* group all women of this drum-group normally ride

[Text continues on p. 92]

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

household goods during nomadic migrations, and are employed daily in all camps to carry water in skin-bags from wells and waterholes to the tents. They are very strong animals considering their low stature, and good pack-donkeys can carry up to one hundred kilograms even for very long trips. Donkeys are occasionally used for long journeys by the Northern Tuareg, and many Ayr Tuareg use them to fetch provisions of millet around Tanut in Damergu. Caravans of donkeys are frequently observed in these regions, and one even sees mixed caravans of donkeys and camels. There can be no doubt that before the introduction of the camel the donkey was still more important for riding and transportation than is the case nowadays. This is clearly demonstrated by historical material from Egypt and adjacent regions (cf. Erman 1922, p. 518 f., 529, 592 f., 636).

It has already been mentioned that donkey's meat and skin are not utilized nowadays by the Tuareg. The same is true of mare's milk which, however, is used as a remedy against a kind of cough known to the Ayr Tuareg as *khamkham*. There is no regulation of mating for donkeys which in many ways are semi-domesticated animals. In Ayr male donkeys are never castrated, while the Ahaggar Tuareg say they castrate such stallions as constantly run after the mares and in this way cause too much trouble. The Tuareg also have no methods to prevent foals from sucking, while a method of this kind is sometimes applied by sedentary people in and around Agadez. This method known as *éfinjar* consists in the cutting of the nostrils of half-grown foals so that they cannot suck pregnant mares. Both stallions and mares are used for riding and transportation, but female animals are much preferred for these purposes. Mares are used almost exclusively for the transportation of water-bags hanging under the animals, as the bags might be squirted by stallions' urine.

The Northern Tuareg saddle their donkeys, using the same saddle type for riding and for transportation (Fig. 86). This is known as *aruku* and is manufactured by the women in the following way:— Two fresh boughs of the *tahunek*-tree (*Rhus oxyacantha*) are heated, or slightly burned, over the fire. The boughs are thereupon barked and bent into the curved form wanted, and are then kept in this position by cords. After drying for a few days the boughs will retain their curved form, and the cords are untied. The boughs are then cut up and their ends are connected by two pieces of camel's hide soaked in water, and sewn together by means of a large iron needle (*tasugla*, or *tasubla*) (cf. Fig. 220b) and a thread which is also cut from camel's hide. The wooden saddle frame is attached to three cushions. These cushions are generally made of goat-skin or sheep-skin stuffed with hay or with date palm bast, but may also be plaited from leaves of the date palm tree. Cushions made from goat-skin are sewn together with strips of the same material by means of the little awl known as *tisient* (cf. Fig. 218a). The two long cushions resting lengthwise upon the animals back are known as *tastek*, and the small cushion resting over the animal's back close to its shoulders is called *tafelledut*. The saddle is fixed to the donkey by two girths consisting of cords made of goat-hair. One of these cords (*tidmechart*) passes under the tail, the other (*ahayif*) is tied around the chest of the animal. This saddle type is well fitted for the transportation of burdens and in particular of water-bags, the cords of which are attached to the pommels. When the saddle is used for riding it is frequently covered with a blanket or a piece of cloth. Saddles of this type are found in all camps of the Northern Tuareg, and Lhote states that they are also found in Adrar-n-Foras and in Ayr (Lhote 1947a, p. 120). This may be so but I have myself never seen them in the latter region where they are unknown to the *Kel Ferwan*

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25
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Tuareg. Some Ayr Tuareg use a kind of saddle for the transportation of water-bags. It consists of two pieces of wood with grooves to support the cords of the water-bags; it corresponds to the type of saddle described and depicted by Lhote from the *Iullemmeden* (Lhote 1947a, p. 114, 134) which type I have seen also among the *Kel Tahabanat* of the *Kel Ataram* group. However, most Ayr Tuareg do not employ this device. They content themselves with a layer of thin green twigs placed on the donkey's back so that the cords of the water-bag, which hangs under the animal's belly, shall not hurt and gall. This method is also sometimes used by Northern Tuareg. To transport the tent and its belongings during nomadic migrations, the Ayr Tuareg use one or two rolled-up mats of the tent-covering for saddle, while on trading expeditions to Damergu they place their skin-bags filled with millet directly on the donkey's back. Such bags (*alelu*) may also serve as a kind of saddle for luggage. When the Ayr Tuareg ride donkeys they sit on the naked back, on a blanket, or on a piece of matting. The Tuareg never use bridle, bit, or rein for riding as do some people of the northernmost parts of the desert and the Atlas. They control their donkeys with a short stick and constantly beat them over the neck to keep up their speed. I have never seen them prick the animal's neck with a spiked stick as is frequently done in the Atlas and adjacent regions. Here many donkeys wear iron shoes which are also unknown among the Tuareg.

HORSES

Horses play a very small rôle with the Tuareg I have studied. There are very few horses in the Northern Sahara where they are bred mainly by sedentary people who are able to feed their animals on barley, millet, and other garden products. Some years ago there were a few horses in the noble *Kel Rela* tribe of Ahaggar, but nowadays there are no horses among pastoral Tuareg of this region, and in all Ahaggar

Fig. 87. Hausa Negroes with their richly ornamented riding horses. Ayr, the *Imeggederen* of Agadez.

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

Fig. 95. A Tuareg feeding his riding camel with *afezu* grass (*Panicum turgidum*). Many Tuareg feed their riding animals with stems of this perennial grass – partly to obtain a docile camel for riding, partly to change its fodder which consists largely of acacias and annual plants. The photograph is taken near Agadez at the *akasa* season. Annual plants grow between trees and bushes (*afagag*, *Acacia Raddiana*; *ebezgin*, *Salvadora persica*; *tadent*, *Boscia senegalensis*). Ayr, the *Isakaranan* tribe.

than those mentioned. Thus they can use any kind of receptacle for milk and milking, and they do not clean their milk-bowls with urine as is normal among certain East African stock-breeders, and, perhaps, also among certain of the Fulani living south of Ayr. The taste of urine is detested by the Tuareg, who know this taste all too well as the water drawn from pools and wells is frequently flavoured with urine and the excrement of domestic animals. Nor is camel urine used by Tuareg women for hairdressing as is done among the Arabs, but it is said that it may have a medical value in curing wounds. The custom of drinking blood has been mentioned above (p. 122 f.) and will be described later (p. 235).

The Tuareg apparently have comparatively few superstitious usages in stock-breeding, which is mainly to be considered rational. We have seen that stock-breeding is adapted to environment, and we have also mentioned that there are veterinary methods which doubtless have their origin in considerable knowledge of the anatomy and physiology of domestic animals. This knowledge forms one corner-stone of rational stock-breeding, and another is the very detailed knowledge of botany. In Ahaggar there are more than 600 different plant species for which the Tuareg have particular names, though a few related species are sometimes known by one and the same name. Every Tuareg know about the ecological conditions of these plants, and he knows exactly their fodder value for domestic animals. He knows that certain plants form excellent fodder for all domestic animals, but he is also well aware that the different types of stock have different needs, so that certain plant species are valuable for camels, other species for other domestic animals.

The Tuareg are occasionally cruel to donkeys, and to dogs, but they take the greatest care of all other domestic animals to ensure their wellbeing and reproduction. Women bring acacia pods or tender annual plants to kids, lambs, and calves, and to sick animals which remain in the camp. On long trading expeditions, when the camels have little time for grazing, some Tuareg will walk along

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

the caravan and feed the animals with annual grasses, and a camel-rider, when he meets plants considered excellent for fodder, will stop for a while to let his riding camel eat them.

Saliferous plants are highly important to all types of livestock, and camels and sheep in particular need much salt nourishment. In Ahaggar there are certain plants of this kind almost everywhere, and the following species serve as fodder:— *aramas* (*Atriplex Halimus*), *issin* (*Salsola foetida*), *tabarekkat* (*Tamarix aphylla*), and *azawa* (*Tamarix gallica* and related species). *Aramas* in particular is very important. It is found almost everywhere within the Ahaggar Massif and at all altitudes. Benhazera states that *aramas* forms the most important fodder plant of Ahaggar (Benhazera 1908, p. 65), but this is not quite correct. It is most important because of its salt content as domestic animals do not thrive without salt, but the saliferous plants mentioned are very little nourishing for most domestic animals, and if the animals constantly eat such plants they become very thin. The most nourishing fodder plants of Ahaggar are tender annual species which spring up after abundant rainfalls. These plants are collectively known to the Ahaggar Tuareg as *akasa*; they comprise many different species and those considered most excellent for fodder are: *tagerufi* (*Tribulus terrester*), *adreylal* (*Astragalus* sp.), *taymast* (*Echium humile*), *azren* (*Monsonia heliotropioides* & *M. nivea*), *tamaghé* (*Moricandia arvensis*), and *tanesmimt* (*Rumex vesicarius* & *R. roseus*). To these annual fodder plants can be added another important annual species, namely *alwat* (*Schouwia purpurea* ssp. *Schimperi*) which grows in the lower parts of Northern Tuareg countries. It is apparently not so common and important to the Northern Tuareg who live in and around the mountainous massifs, though it is a common and very valuable fodder for domestic animals of the Ahaggar Tuareg who live towards the south in the plains of Tamesna. It is one of the best fodder plants for camels and is also fairly good for sheep, while less valuable for other types of livestock. Annual plants may germinate over a large part of the year in Ahaggar, but as rainfall is most common late in summer (June, July, August) the best annual pasture will spring up at this period, and under very favourable conditions the plants may keep fresh and green for up to four months. When annual plants wither they are known to the Ahaggar Tuareg as *ɣarat* (*ɣarat n akasa*). Such dry annual plants have lost much of their fodder value, but they are important for fodder even at this stage. The perennial species which are most important for fodder have their optimal value at particular stages of their development at particular seasons. Important are the perennial grasses known to the Tuareg as *tulluli* (*Aristida pungens*) and *afeẓu* (*Panicum turgidum*). The *tulluli* grass is extremely common in the Northern Sahara, and it forms perhaps the basic fodder plant among the Tuareg of Tasilé-n-Ajjer. It is also common in Ahnet and in the other mountain massifs surrounding Ahaggar to the north, but it is not found in the mountain massif proper of Ahaggar where most Tuareg live. The grass grows at Abalessa where cattle, goats, and sheep of the sedentary farmers feed upon it. The *tulluli* grass is valuable when green in winter, and hay of this grass is used for camel fodder on caravan expeditions to Tidikelt. The Tuareg cut it with a sickle and take it with them on the journey to the northern oases, because there is normally little vegetation on the road and no pasture around the oases where the Tuareg remain to trade for several days. The *afeẓu* grass is extremely common in the lower parts of Ahaggar and is found in practically all river valleys. It is valuable for fodder when green after rain, but it is of little value when withered. There are other perennial herbs and grasses which are eaten by domestic animals, but herbs and grasses are

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

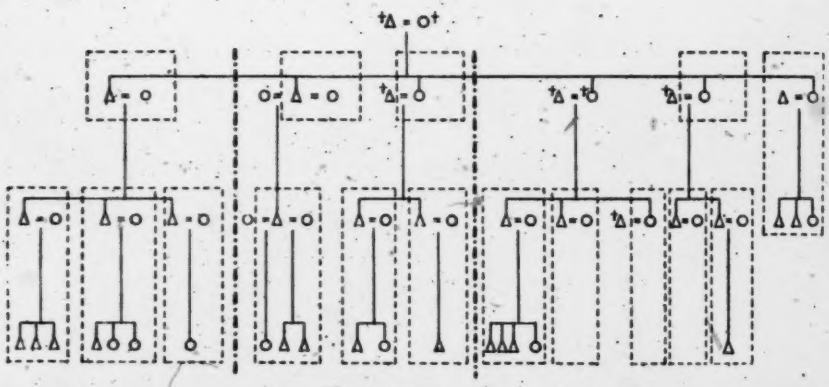

Fig. 105. The section camp of the *Kel Ajerrum* (the *Isandan* sub-tribe of the *Ajjuh-en-tehli*). The camp comprises three goat-herding units of four, five, and seven tents forming three independent camps in case of dry pasture. When grazing is good the three goat-herding camps which co-operate in camel-herding and caravan trading will camp on the same spot with a small distance between each in order that the flocks of the three units shall not mix. The household to the extreme right does not follow the general rule of residence illustrated Fig. 103. Its members accordingly should camp together with the husband's family, which, however, lives in Ayr whence he has emigrated to Ahaggar.

also the representative of the section towards the tribal chief, should preferably be elected. The members of one section will frequently intermarry with members of another particular section, but members of a section will generally marry into more than one particular section and sometimes into sections of foreign tribes.

When grazing is good the sections are identical with camps of 10–20 tents, which otherwise are split up into minor camps of 2–7 tents. These minor camps generally consist of an extended family which co-operates in goat-herding and in various other tasks, although all animals are individually owned and every tent or household is self-supporting – "it has its own churning bag and its own millet bag", as the Tuareg put it. The section camps formed during good grazing are made up of three or four small goat-herding camps which constitute extended families, but the small camps within the section camps remain co-operative in goat-breeding, and there is generally a distance of 50–100 metres between each in order that their flocks shall not mix. When the small goat-herding camps of a section join each other and form bigger camps under favourable grazing conditions, it is not only because kinsmen appreciate each other's company, but also because the big camp of a section is a co-operative unit in camel-breeding and caravan trading, for which tasks a goat-herding camp cannot spare the labour. Should the small goat-herding camps of a section be unable to remain together, they camp so close to each other that contact between them is comparatively easy. A section camp is illustrated in the diagram below (Fig. 105). The formation of such camps is not generally possible without annual pasture, and section camps are particularly common in the *Dag Rali* tribe resident mainly in the

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

outlined above from Ahaggar, with the exception that the Ayr Tuareg have never practised the one year's stay in the bride's family camp after marriage. To-day the *Kel Ferwan* tribes of Southern Ayr do not follow very strictly any particular rule of residence. There is a strong tendency to patrilocal residence, but a man will usually continue to live with kinsmen of the camp where he was brought up as a child. If a man has grown up with maternal relatives owing to the loss of his father as a boy, or because his mother and father have divorced, he may remain with matrilineal relatives. I believe that all tribes of the *Kel Ferwan* group of Southern Ayr are bilateral kin groups. And if in the past these Tuareg practised the rules of residence outlined above from Ahaggar, the tribes have been bilateral units as there have always been many marriages contracted between people of different tribes. Two tribes of Ayr, namely the *Inezzureg* and the *Kel Akerra*, claim that they have intermarried regularly from very ancient times, because the father of the *Kel Akerra* tribe was the brother of the mother of the *Inezzureg* tribe, while the father of the *Inezzureg* was a cross-cousin of *Kel Akerra*'s mother. These two tribes possess their individual chiefs, but have always been very mixed. It seems as if chiefs were elected according to matrilineal rules in the past, but to-day it is claimed that a son of a deceased chief should be the first in line of succession (cf. p. 456 ff.).

In Southern Ayr camps of all possible tribes to-day live among each other. There are no grazing grounds or particular territories nowadays when everybody is free to go where he likes with flocks and herds. No Tuareg have particular rights over land, and ban on grazing within certain areas, as in Ahaggar, is unknown. This is said also to have been the case in the past. But in the times preceding the French occupation of Ayr, all vassal tribes had their particular territories which, according to Capot-Rey, were formerly marked by walls (Capot-Rey 1953a, p. 265). I have not been able to confirm this, but the Tuareg told me that in the past tribal territories had frontiers marked out by river valleys or by natural objects such as large trees. The vassal tribes did not own these territories, which were allotted them by the drum-chief of the noble *Kel Ferwan* tribe, the *Irawatten*. The traditional territories or grazing grounds of most *Kel Ferwan* tribes are indicated in the list on p. 423 ff.

At present there seem to be no sectional division of the *Kel Ferwan* tribes corresponding to the division into sections in Ahaggar. The *Kel Ferwan* Tuareg generally live in small camps comprising a few tents. These camps, which co-operate in stock-herding, do not generally exceed four or five tents inhabited by kinsmen who generally constitute an extended family, e.g., (1) husband, wife, married sons, and their children; (2) two brothers, their wives, married sons, and their children; (3) a brother and a sister together with their spouses and children; (4) husband, wife, unmarried children, husband's mother and mother's sister, and his sister's daughter with her husband. These small camps, as may be seen, are not based upon any particular rule of residence in agreement with what has been said of residence rules above. The households of a little camp of this kind will remain constantly together to co-operate not only in goat-herding, but generally in camel-breeding also. The labour for camel-herding and caravan trading is more easily provided for in Ayr than in Ahaggar. For camels are rarely taken to very distant grazing grounds, and caravan trading is often limited to expeditions to Damergu where the Tuareg fetch their millet. The Tuareg tribes of the *Kel Ferwan* group living around Agadez have no true co-operative units apart from the small camps of up to four or five tents. Such small camps of extended families may temporarily join each other in a bigger camp during the

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

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Fig. 115. Negroid agriculturist (*Haṛṭani*) with a hare caught in a steel-trap (*elkheniyet*) of European type. Ahaggar.

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[267] by many people in vassal tribes, and jackal's meat is popular as it is considered an excellent remedy against fever (cf. Nicolaisen 1961, p. 146). But there are also many Tuareg who refuse all types of game with the exception of such animals as gazelle, barbary sheep, and antelope. Some Tuareg consider hare's meat unlawful, but this, perhaps, is a conception introduced with Islam, for many people of the religious *Ineslemen* class claim that hare should not be eaten because their blood resembles that of menstruating women. The food taboos strictly followed by all noble Tuareg are older than Islam: they never eat birds, eggs, reptiles, and fish.

These rules are not traditional for vassal Tuareg, though some of them have adopted the taboos of the noble Tuareg.

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[432]
[444] In Northern Tuareg areas two big lizzard types are found. One of them is called *aggezzeram* (*dobb* in Arabic; *Uromastix acanthinurus*). This is caught and eaten by slaves, agriculturists, and by many vassals. It is frequently taken by hand, but there is also a special implement (*taskumt*, *takoḍa*) consisting of a stick provided with an iron crook for catching lizzards hiding in holes and under rocks. When vassal Tuareg are able to catch a great many *agezzeram*-lizzards they cut them up and dry them for sale on their regular trading expeditions in autumn to the sedentary agriculturists of Tidikelt (cf. p. 210). The *agezzeram*-lizzard is said to be the ancestor (the mother's brother) of the negroid blacksmiths (*Ineḍen*), because the lizzard's tail resembles a file. I do not know whether the few blacksmiths found in Northern Tuareg country eat this lizzard, but do not think they do. The lizzard is not considered very delicious, and blacksmiths have emigrated from the south where it is not generally eaten.

The other edible lizzard is named *ayata* (*Varanus* sp.). It is much bigger than the *agezzeram*-lizzard just mentioned, and its meat is excellent according to the taste of most Europeans. But this big lizzard

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

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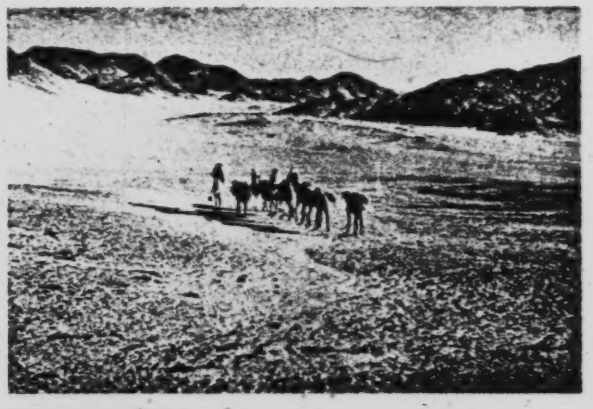

Fig. 147. Tuareg caravan in the barren desert between Ahnet and Ahaggar. The *Kel Ahnet* tribe.

TUAREG CARAVANS

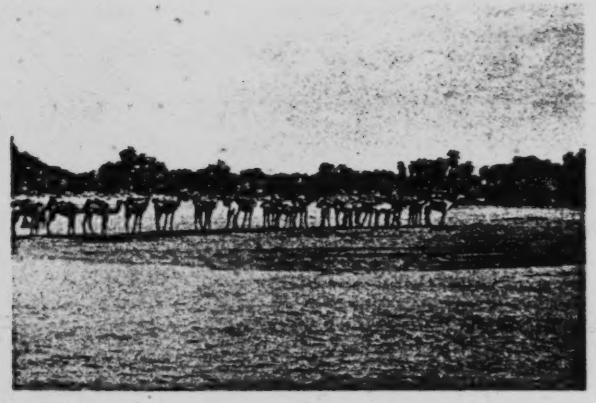

Fig. 148. Caravan crossing the flooded river bed of Oued Dubaga in Southern Ayr. *Kel Ewey* Tuareg.

Caravan Trading

Caravan trading of the Sahara has suffered severely from the European colonisation of Northern Africa. The establishment of ports and railways in the Sudanese area and the abolition of the slave-trade have brought to an end the large caravans passing through the desert. In recent times another heavy blow has been struck against the caravans, for transportation is more and more taken over by trucks which can easily pass through the open desert country. Many pastoralists of Northern Africa suffer from the decline of their trade, which for centuries has been an important stabilizing factor for their subsistence. The decline of caravan trading is also strongly felt in the oases, which have played a very important part as trading posts or trading stations. Some of these oases have far fewer inhabitants nowadays than in the past, and it is most difficult for many sedentary people of the oases to exist. The decline of the trade has been felt also among the pastoral Tuareg. But caravan trading is still important to most of them, and many of them could not support life without it. To understand the important role of caravan trading we have once more to return to the economic values of subsistence activities.

CARAVAN TRADING OF THE AHAGGAR TUAREG

The Ahaggar Tuareg cannot live exclusively on stock-breeding products all the year round – not even in good years when annual pasture is well developed in autumn and early winter. Even in a good year the nomads mainly eat vegetable food throughout the hot season, and some bread or porridge is also consumed during the period of abundant milk yields. It is true that nomads can subsist entirely on milk for long periods, and that some people do so for weeks or even months. Galan says that pastoralists of of Ahaggar, when they live entirely on milk, can do with four litres a day per person (Galan 1951, p. 231). But it is estimated by the Ayr Tuareg that they need about eight or ten litres a day to live entirely on milk, and they all claim that they get weary from constant milk drinking. They say that though they do not feel hungry when they live exclusively on milk they experience a peculiar, unpleasant feeling in the stomach. The relative importance of stock-breeding products (mainly milk) and vegetable food (mainly wheat, millet, and dates) may be seen from the diagram Fig. 151. In a good year there is normally some possibility of collecting wild seeds for bread and porridge, but the Tuareg claim that they cannot easily cover their need of vegetable products even in a year when milk *is* abundant. And milk is not always abundant. We can estimate that for two or three good years

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there will be one entirely dry year throughout, during which stock-breeding products have little or no value as food, and in such years of dry pasture there will also be very few wild plants to collect. Hunting, which plays little part for most Tuareg nowadays, is also of little value in an entirely dry year when many game animals die or migrate to other regions with more favourable pasture. It would seem obvious for pastoral Tuareg to do the same and to take their animals to grazing grounds outside of Ahaggar – particularly to the southern plains where pasture is normally better than in their own country. We have seen that most Ahaggar Tuareg in bad years have their she-camels far from Ahaggar in the Tamesna plains or in the country north of Adraf-n-Foras. We have also mentioned that, under very severe conditions, camps of Ahaggar and Ahnet may move to these southern regions with their flocks, though extensive goat-migrations are not always profitable. But most Tuareg remain in Ahaggar even in very dry years with their camps and flocks. Some of the animals will die, and none of them can be mated so that the flocks may rapidly decrease. During such years of drought the Ahaggar Tuareg live so to speak exclusively on agricultural food products of which they get only a part from their gardens grown by sedentary agriculturists (the *Harratin*, or *Izzegaren*). It is mainly through caravan trading that the Ahaggar Tuareg acquire their vegetable food products. Their two important trading expeditions to the Tidikelt oases and to the Sudan are carried out anually for the main purpose of acquiring dates and millet.

Trading with the Tidikelt oases (Awlef and In Salah) is based mainly upon a surplus of goats, camels, butter and cheese, and on dried meat. But many Tuareg who obtain large amounts of millet from the Sudanese trading expedition also sell part of their wheat grown in their own gardens in Ahaggar, and Sudanese articles bought during their south-bound trading expedition. In a dry year some Tuareg may choose not to visit the Tidikelt area as they have too small a surplus for trading. The south-bound caravans, on the other hand, are rarely prevented from going as their main trading object is rock-salt of an excellent quality mined at Amadror north-east of the Ahaggar Massif. Both north-bound and south-bound caravans will set off in autumn when the hottest season has come to an end, that is at the end of September or at the beginning of October.

The caravan route from Tamanraset in Ahaggar to In Salah in Tidikelt is about 750 kilometres, and the route is rather difficult because pasture is normally lacking for three to four days of the journey. Most Tuareg who cross this part of the desert therefore bring with them large supplies of the dried *tullult*-grass (*Aristida pungens*), which also serves as fodder for the pack-camels during the stay in the oases around which there is little pasture. The journey takes about twenty days in each direction, and the north-bound caravans return to Ahaggar again already in December or in January. The traders return with their camels loaded with dates of which a part may be re-sold in Ahaggar (Tamanraset), but they also buy European cotton and other European articles, which are cheaper in the north, and woollen blankets woven by sedentary people of the northern oases.

The south-bound caravans are very extensive. The towns visited in the south are Agadez, Tawa Tanut, and Zinder. The distance from Tamanraset to Zinder is, as the crow flies, about 1200 kilometres, while the distance from Tamanraset to Amadror, where salt is mined, is about 300 kilometres. In total the caravan journey from Ahaggar to Zinder and back again for many Tuareg amounts to more than 3000 kilometres. The south-bound caravans are organized as follows:— Slaves take the

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366
563
291
252
413

Fig. 149. The market place of Agadez. In the front negroid Hausa men roasting small pieces of meat on a spit; in the background Tuareg camels offered for sale.

pack-camels to the salt pit of Amadror to mine salt in the hot season. They load the camels with salt and bring them to the camp where further preparations for the journey are made. When the caravans have started southwards they stop in the Tamesna plains and rest there for at least one month to allow the pack-camels to feed on annual pasture, and, if necessary, to exchange the pack-camels with others kept by the Ahaggar Tuareg in Tamesna. Thereupon the caravan will continue towards the millet-growing towns and villages of the Sudan to bargain with the Hausa. The caravan returns to Ahaggar again at the end of March or at the beginning of April, so that the total duration of a south-bound caravan is up to six or seven months.

The Sudanese millet trade is of extreme value to the subsistence of the Ahaggar Tuareg. It is particularly important to their economy that they obtain millet for non-nomadic products transported by camels, which are mainly bred outside of Ahaggar. The millet trade is consequently not much influenced by Ahaggar's changeable climate. According to official statistics, the Ahaggar caravans in 1946 exported 375 tons salt, and imported 720 tons millet, while the cereals grown in Ahaggar amounted to 197 tons (cf. Malaurie 1953, p. 344). According to Galan vegetable food grown in the gardens of Ahaggar in 1950 (a bad year) amounted to 121 tons wheat, 5 tons millet and barley, and 4 tons of tomatoes – about 10 kg of wheat and 0.5 kg of millet, barley, and tomatoes per person (Galan 1951, p. 233). We see from this that the amount of cereals acquired in the Sudan far exceeds the amount grown in Ahaggar, and as we have mentioned, the millet trade is also important for the establishment of Tuareg agriculture in their own country where this cereal is used for payments to cultivators. It can also be added that the Sudanese caravan trade is more important to the Tuareg than appears from the figures above. For salt is much more valuable than millet, and for one load of salt the Tuareg receive from four to fifteen loads of millet – in 1946 the price was fifteen to one (cf. Malaurie 1953, p. 344). It is evident that the Tuareg could not take all this millet back to Ahaggar. Most of it is re-sold

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tions have remained important to the Ahaggar Tuareg, and it is clear that they would not go on trading were these expeditions not profitable, for trading expeditions are extremely strenuous. Though the expeditions set off when the extreme heat is decreasing, it is still very hot in the extensive barren plains in autumn and in winter during daytime. Water and pasture are often extremely scarce in this deserted country, and the Tuareg frequently have to travel rapidly. For days or weeks they live so to say on their camels, and if camels are not too heavily loaded they may do up to 16 hours a day for several days in succession. Under such journeys the Tuareg eat only once a day. Obviously such trading expeditions are also very hard on the pack-camels, and there is always a risk of loosing a camel during such journeys through barren, desert-country.

In this brief outline of caravan trading I have not considered those Ahaggar Tuareg living constantly in the Tamesna plains and adjacent regions. These Tuareg own more livestock than the Tuareg of the Ahaggar Massif, and I do not believe that they engage so much in extensive trading expeditions. They are comparatively rich in she-camels which are tolerably good milk yielders in these regions most of the year, and milk is more important as food than it is in Ahaggar. I believe that most Ahaggar Tuareg of the Tamesna region acquire their necessary vegetable products by selling surplus livestock, butter and cheese at the markets of Ingal and Agadez.

CARAVAN TRADING OF THE AYR TUAREG

Among the Ayr Tuareg stock-breeding products are far more important for food than in the north. Grazing conditions are better with annual pasture as a recurrent event, and the Tuareg keep bigger flocks of goats and sheep, larger camel herds, and most have a few zebus which are guarded without much difficulty. The *Kel Ferwan* Tuareg of Southern Ayr can live on milk for a large part of the year, though they, like those of Ahaggar, become tired of milk drinking if they get no solid food. There are Tuareg of Southern Ayr who live exclusively on milk for two or three months during the periods of *akasa* and *rarat* and to whom milk is important as food for at least six months. In the extremely hot season of *ewilen* when milk is very scarce most Tuareg eat millet porridge with a little milk or sauce (cf. p. 242 f.), and Tuareg who are not very wealthy eat millet porridge to a great extent all the year round, so that the necessary amount of millet for many camps is about 0.5 kilo a day per person, or about 180 kilos a year. In Ayr there are fairly good possibilities of collecting if there are not too many locusts, but most Tuareg do not collect a great quantity of wild seeds, and claim that they would be very badly off without millet, as seeds of wild plants are not very nourishing in comparison. In one year during the second world war (in 1943) they say that millet was very hard to get; it was then very difficult to subsist and a great many animals had to be killed for food. Millet is almost indispensable to the Tuareg; they also consume other vegetables derived from agriculture, notably wheat, maize, and dates, but millet is the most essential non-nomadic food product. Normally it can be acquired by most Ayr Tuareg without much difficulty.

The people of Ayr obtain their provisions of millet from the Sudanese area of shifting cultivation, notably from Damergu (Tanut). Millet can also be bought at Agadez whereto it is brought by Tuareg

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caravans of the south or by Ayr Tuareg who import more millet than they need for their own use. But millet is cheaper in Damergu than at the Agadez market, and most Tuareg prefer to organize their own millet caravans with camels and donkeys as pack-animals. In Damergu most Ayr Tuareg get millet in exchange for livestock or they buy it for money. Their caravans are not always very large, for the Southern Ayr Tuareg of the *Kel Ferwan* group do not organize their caravans co-operatively on the basis of kinship. Many individual households fetch their own millet with a few animals, and it is comparatively easy to do so as the millet growing country of Damergu is not very far away – the distance from Agadez to Tanut is only about 300 kilometres. The Ayr Tuareg do not have to engage in extensive trading expeditions to procure millet, and can buy millet very cheaply. A household, it is said, does not have to sell a great many animals to secure the necessary supply of millet. Three or four camel loads will cover the needs of most households, and this amount of millet can be acquired for comparatively few animals – particularly if the animals vended are sheep, which have become very expensive in recent times owing to the rapid increase of Europeans at Agadez. An extremely good sheep or ram for slaughtering can bring in 2000 to 3000 West African francs, and a Tuareg household which buys millet in Damergu will need less than 10,000 francs to acquire the quantity necessary for a year. Thus the Ayr Tuareg can obtain their millet for a few sheep, and there are very few, if any, who do not posses this surplus, and it should be repeated that the increment of livestock is never stopped by drought periods as in the north. The extremely high price for sheep for butchering is a recent phenomena due to the increase of the French population. Fully-grown sheep or rams are expensive, and this is also the case with fowls, while goats are cheap. I believe we can estimate that a household would have to sell about 15 goats anually to obtain the amount of millet necessary for one year's consumption. However, there is little doubt that it has always been quite easy for the Tuareg of Southern Ayr to obtain the requisite amount of millet in exchange for livestock.

Millet and milk constitute the basic nourishment of the Ayr Tuareg, but they are very fond of an occasional change of food. And I believe that this is one important reason why the Ayr Tuareg, like those of Ahaggar, collect wild seeds even in years when grown cereals are abundant. For a change, the Ayr Tuareg are also extremely fond of dates which are not grown to any great extent in their own country. A few Ayr Tuareg own palms yielding dates of poor quality, and I think that a few households also obtain some dates from Ingal. However, most dates eaten in Ayr are imported from the oasis of Bilma, situated in the very barren desert country between Ayr and Tibesti, about 700 kilometres north-east of Agadez.

The trade with Bilma is apparently an ancient one, and its foundation is salt which is of a very bad quality compared with that mined at Amadror in the north. The rock-salt of Amadror is excellent for food, and though there is one good quality of Bilma salt that is used for food by the Tuareg of Ayr, most salt from Bilma contains much soil and other impurities. This impure salt is excellent for domestic animals which, in Ayr and further south where salt pastures do not exist, need a lot of salt. The Ayr Tuareg, and particularly those who do not visit the country of Azaouaɣ at the end of the rains, need salt not only for their own food but also for their domestic animals. They obtain this from Bilma, which is visited by caravans in autumn or in the early winter. The inhabitants of Bilma, like other oases-dwellers, are in constant need of cereals and meat, and these products are imported

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by the Tuareg of Ayr, the *Kel Geres*, and other Tuareg. The Tuareg obtain salt generally in exchange for millet, but they also bring with them dried meat, and meat from animals newly slaughtered; and although this meat is largely rotten when it arrives at Bilma it is easily sold to the oases dwellers who are yearning for meat. The oases dwellers have little to subsist upon but dates of which they have a surplus. This is purchased by the Tuareg, who get two loads of dates for one load of millet. The Bilma trade is less important nowadays than it was at the beginning of the century. In 1922 the Bilma caravans comprised about 7000 camels (Buchanan 1926, p. 83), while in 1908, when the trade was already decreasing, caravans numbered about 20,000 camels (Abadie 1927, p. 292). Caravans still go to Bilma to fetch salt and dates, but the salt trade is not so profitable to-day when Bilma salt can be bought fairly cheaply at Agadez, as the trucks bringing provisions from Agadez to the French administration and to the merchants of Bilma, take salt back with them when they return. The Ayr Tuareg do not organize their trading expeditions within family groups or sections as in Ahaggar. A Tuareg who does not want himself to go to Bilma may let a kinsman or a friend trade for him with his camels. The payment for this is a large loaf of salt which constitute one sixth or one seventh of a camel load.

The Ayr Tuareg do not generally obtain salt from the pits of Tegidda-n-tésemt though this place is not very far from the Massif to the west. They say that the Tegidda salt is not as good as Bilma's. The salt of Tegidda-n-tésemt is purchased mainly by the *Iwllemmeden Kel Dennek* when visiting the regions around Ingal after the rains. Some of the *Kel Ayr* who live in the extreme north (the *Kel Tédalé*, and others) occasionally go to Amadror in the north to fetch salt which is taken down to the Sudanese towns and villages. In years when drought prevails in Ahaggar these Tuareg take their surplus of livestock to the market at Tamanṛaset, for in dry years the provision of meat, butter, and cheese consumed in Ahaggar come mainly from Ayr and adjacent regions. When I stayed in Ahaggar in 1954–55 a great many Tuareg of the *Kel Tédalé* came to Tamanṛaset to sell camels, donkeys, sheep, goats, and zebus, and also brought with them large quantities of cow's butter and cheese. The route followed from Northern Ayr to Ahaggar runs via I-n-azawa and I-n-abeggi which are the only wells between the two mountain massifs. Water is very scarce and so is pasture, which is mainly limited to a scattered vegetation of annual plants; over very large areas there is no vegetation at all. It is easy to drive camels and donkeys through these regions, while more difficult for sheep, goats, and cattle. The zebus easily get cut hooves from walking on stony ground, while sheep and goats suffer much from thirst. In spite of this, all kinds of livestock can be driven through the barren desert from Ayr to Ahaggar, even as late as the month of March which is extremely hot in the barren desert country. The Tuareg frequently lose animals which die from thirst and hunger during the journey, but the trade is nevertheless extremely profitable as prices of livestock are high in Ahaggar in dry years, while prices of European goods such as tea, sugar, cotton, metal vessels, and the like are extremely low compared with the prices asked for these goods in Ayr.

The Ayr Tuareg, though owning more livestock than the Tuareg of Ahaggar, have a certain demand of agricultural food products. These products are mainly grown outside of the Massif, for the farmers of Ayr grow little millet, very few dates, and part of the wheat grown in Ayr is exported to the oases of Ganet and Rat in the north. Though these vegetable products can be purchased at Agadez, it is profitable to fetch them where they are cheap, namely in the Sudan (millet) and in Bilma (dates). And

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175 721 added that wars were not confirmed to fighting between these large political groups, for there was also fighting within these groups at intervals.

[348] [378] The Ayr Tuareg had as their main enemies the Tebu, the Eastern *Iwillemmeden* and the Arab pastoralists of the Tawa district. In Ayr there were also sharp disputes between various drum-groups of the Ayr federation, notably between the *Kel Ferwan* and the *Kel Faday*. The *Kel Faday* Tuareg frequently joined forces with the *Kel Dennek* in fighting the *Kel Ferwan*.

[437] Throughout the 19th century there was a risk of severe trouble everywhere in the Sahara with adjacent regions, but caravan trading was most important to Tuareg subsistence at that period in spite of these latent conditions of hostility.

175 437 Great caravans then crossed the desert carrying gold, ivory, ostrich feathers, and slaves from the Sudan to the Mediterranean, and south-bound caravans traded with salt and Arab and European goods. The Tuareg had their important part in these large trading expeditions, and they traded with their surplus of livestock and stock-breeding products much in the same way as they do nowadays. They acquired dates and millet from the sedentary farmers who were in constant need of meat, butter, cheese, and the like.

175 437 484 The organization of caravan trading among the Ahaggar Tuareg was different in the past. To-day the normal trading units are tribal sections, and this was probably also true in pre-European times, but these trading units did not travel independently as they do nowadays. Several tribes of the same drum-group travelled together under the leadership of a noble Tuareg of the dominant tribe of their chiefdom. When the Ahaggar Tuareg had no severe disputes with the *Ulad Ba Ḥammu* who dominated the Tidikelt oases, they traded with their population of sedentary farmers much as they do nowadays.

[439] They brought livestock, butter, dried meat, and Sudanese goods which were bartered for dates and Arab goods. The Ahaggar Tuareg also traded southwards, but they say that they did not go further south than Agadez, as it was considered dangerous to penetrate too far into the Sudan. They also

[438] say that they did not trade with salt until a few years before the arrival of the French, and that the important trading object before that time were donkeys, of which there was a shortage in Ayr. All

[317] this seems to agree with Duveyrier's statement that the salt deposits of Amadror were not utilized in his time owing to insecurity, though he says that the deposits situated on the caravan road from Wargla to Agadez had formerly been mined (Duveyrier 1864, p. 143 f.). As to the caravan trade of the Ayr Tuareg, I believe that it was very much as it is nowadays, comprising trading expeditions to

[361] [162] the millet-growing Sudan and to the Bilma oasis. It is most possible that the Ayr Tuareg also then travelled in larger units to protect themselves and their goods, for the *Kel Ferwan* Tuareg say that in the past camps were always bigger than to-day, as a camp consisting only of three to five tents could not defend itself against raiders.

175 587 [648] [171] It is known that the slave trade was carried on until the arrival of Europeans and in certain parts of the Sahara even later. Both the *Kel Ahaggar* and the *Kel Ayr* claim that they engaged in slave trading until it was abolished by the French authorities. However, it seems as if the Tuareg never engaged in this trade to the same extent as the Arabs. This is stated by Bissuel in regard to the Tuareg of Ahnet who bought their slaves from the market of Timbuktu. In general they kept these slaves for their own use, in contrast to the Arabs of Tidikelt who traded with slaves on a very large scale (Bissuel

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Food Preparation

It is natural to open this chapter on food preparation with a description of the use of milk (*akh*) among pastoral Tuareg. The milk which serves as nourishment for the Tuareg derives from goats, sheep, cows, and camels. Milk of all these animals is frequently drunk fresh without any preparation, and this is generally the case with camel's milk, which is not fitted for churning butter or for the manufacture of cheese (cf. p. 63). Milk of goats, sheep, and cows is used for butter and cheese, and is added to various dishes to be described below.

Fresh milk, which is known to the Ahaggar Tuareg as *akh kefayen*, is sometimes heated by means of hot stones (*iḍaṛen* in Ahaggar; no particular name in Ayr). The stones heated are then put directly into the wooden milking bowl. The Tuareg practise this method mainly in winter as they do not like to drink cold milk, but milk is heated all the year round in this way with milk of animals which have just brought forth kids, lambs, or calves including camel calves. The milk taken from a mother animal until about twenty four hours after the birth of kids, lambs, or calves is known to the Tuareg of Ahaggar and Ayr as *édeṛes*. It is very rich and when it is heated by means of hot stones it becomes very thick forming almost a kind of cheese which is highly esteemed by the nomads. The milk of sheep and goats is considered *édeṛes* for two days after the birth of kids and lambs, though this term should properly be applied only to milk taken the first day after birth. The main reason for using hot stones for milk heating is said to be that milk does not get dirty in this way as it does if heated in earthenware pots over the fire (cf. p. 126).

Sour milk (*selay* in Ayr) is consumed mainly by the Ayr Tuareg, who conserve it in skin bags and especially in calabashes, for which reason this sour milk is also known to the Ayr Tuareg as *akh n ezewu*, that is "calabash milk". The milk is often left about twenty four hours for souring, and it is then placed in a very cool place in order that it may not turn into junket which is not eaten by the Tuareg.

Both in Ayr and in Ahaggar the Tuareg may add water to fresh milk (cf. p. 126), and the Northern Tuareg also add water to buttermilk (*akh n agiwir*). This mixture of water and butter-milk is in high esteem among the Northern Tuareg, and camel riders frequently carry it with them in a special skin-bag, known as *tasufra* (Fig. 155), attached to the riding saddle. Butter-milk cannot be transported in this way if water is not added, for the milk, though already once churned, will become butter during the camel's march. The Ayr Tuareg do not drink butter-milk which is given to domestic animals, for this beverage is so appreciated by the Northern Tuareg that some of them will not drink fresh milk unless butter-milk has been added, a mixture known as *agerengefa*, *akh imsayen*, or *imsey*.

[p. 221]

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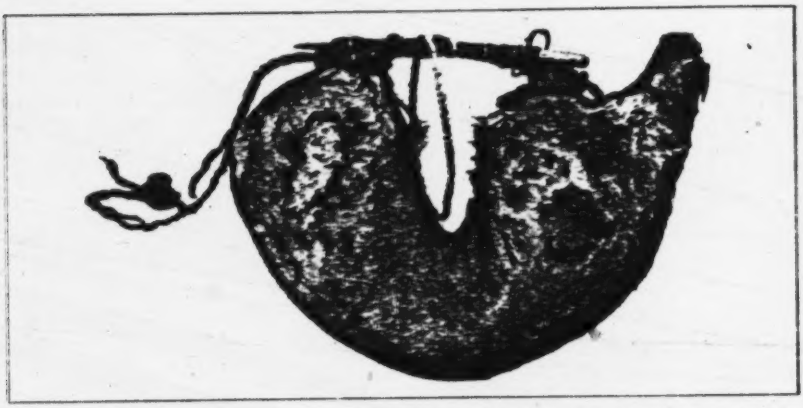

Fig. 162. Very large butter container (*aguilu*) made from the neck-hide of a camel. It is provided with a wooden handle wound with hide and with cords made from goat's hair and bast of *ahaw* (*Acacia Raddiana*). Similar containers are also used for the conservation of cereals. Abaggar, the *Dag Ball* tribe. Dimension: 0.62 m long. (N.M. G. 5201).

Fig. 163a-b. Calabashes used for storing butter in Abaggar but introduced from the south (Ayr).

a. Calabash (*azaua*) with a wooden stopper fastened to a leather strap and provided with a handle of cord made of goat's hair. The wooden stopper is called *eskey*. Abaggar, the *Ajak-en-eskki* tribe. Dimension: 0.620 m high. (N.M. G. 5286).

b. Calabash (*azaua*) with a handle of white goat's hair. Used for transportation of butter on journeys. Abaggar, the *Dag Ball* tribe. Dimension: 0.175 m high. (F.M. 252).

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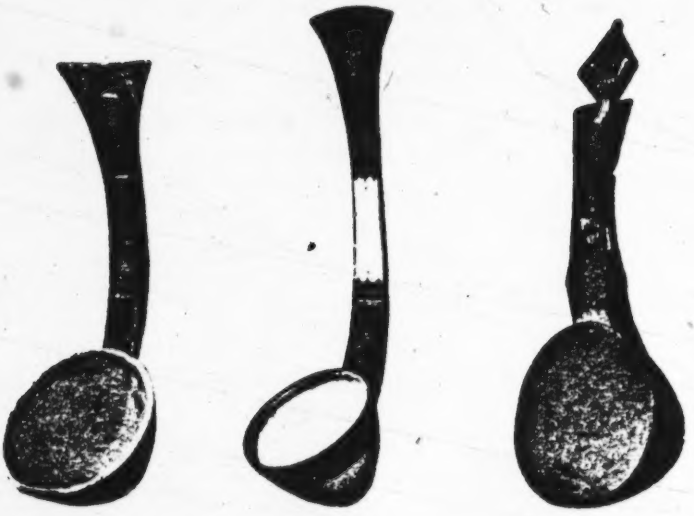

Fig. 194a–c. Bowl-like ladles from Ahaggar and Ayr. They are used mainly for eating liquid dishes – in particular for the dish known as *ayehara* (Ahaggar) or *ayelira* (Ayr).

a. Ladle (*tamulat*) cut by blacksmith from wood of the *taburaḳ* tree (*Balanites aegyptioca*). Ahaggar, blacksmiths of Abalessa. Dimension: 0.285 m long, 0.110–0.120 m in diameter (the bowl). (N.M. G. 5845).

b. Ladle (*tamulat*). Ayr, Agadez. Dimension: 0.330 m long. (N.M. G. 6631).

c. Ladle-like bowl (*assar*) cut by blacksmith from wood of the *taburaḳ* tree (*Balanites aegyptioca*). Ahaggar, *Ahl Azzi* Arabs of Tamanraset. This ladle-like bowl was not used for food but for conservation of fine-grained sand used for hair-dressing together with water and butter. Dimension: 0.330 m long, 0.120 m in diameter (the bowl). (N.M. G. 5879).

[302]

264 frequently consisting of bread or porridge eaten rather late at night. The Ayr Tuareg have related terms for their meals:— (1) *tegimgimt* which is a prepared meal eaten late in the morning. (2) *témekkelewt* which is the prepared meal taken at midday. (3) *temegint*, late evening meal which is the main [272] meal in Ayr, as in Ahaggar. In addition to these meals there is a very light meal taken with tea immidiately after rising. It is known as *elfetur*.

[511] Incidentally there are Tuareg who do not have food enough to eat three times a day.

During times when Tuareg subsist exclusively on milk they have no regular meals. The amount [484] of milk needed to support life is very great, and it is drunk slowly during the day. On extensive journeys when the camels cross the barren deserts, the Tuareg also do not have regular meals as they do in their camps.

[Text continues on p. 255]

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by blacksmiths (*Ineḍen*). Tuareg women wear certain stone ornaments which derive from prehistoric finds or are introduced from other countries. But in Ahaggar I have collected one stone ornament, or rather an amulet, which was said to have been manufactured by a Tuareg woman of the vassal class. This stone amulet (*amerwan*) (Fig. 201) may be described as a large bead or button pierced in the middle for the insertion of a leather strap. It is said to be used as an amulet against diseases of little children, who are also very fond of looking at the red-white stone material from which the amulet button is made. The hole for the little carrying strap is made by means of an awl known as *éndel* (Fig. 218b, p. 278). This stone amulet has been described elsewhere together with certain other stone ornaments used among the Ahaggar Tuareg (cf. Nicolaisen 1961, Fig. 6a–l p. 128 f., p. 139 f.).

Earthen pots are widely used by pastoral Tuareg even nowadays, though European metal vessels are available at the principal trading centres. They are particularly common in Ahaggar where the Tuareg take their earthen pots with them on donkey's back during nomadic migrations – the old belief that pottery does not go with the roaming life of pastoralists is contrary to fact. However, metal vessels are, of course, more durable and will no doubt in a few years replace the earthen pots which are not manufactured by pastoral Tuareg. The Ahaggar Tuareg acquire their pots from the cultivation centres where there are a few women who practise the art of pottery making. There are various types of pots (cf. Figs. 186, 187a–b) which are made from black clay (*talak*). The lowermost part of all pots is formed over the bottom of an old pot on which is placed a piece of moistened cotton in order that the clay shall not stick. The upper part of the pots is built up with the hands according to the well-known technique of the application of thin sausage-like strips of clay. This technique is also used for the manufacture of other containers such as earthen milk-bowls (*akus*) (Fig. 21a), incense jars (*elbakhkhar*) (Fig. 203), and drums (*akralal*, *abakar*) (Fig. 202a–b). These latter types of pottery are not in general use among pastoral Tuareg but are common among sedentary agriculturists. The pottery made in

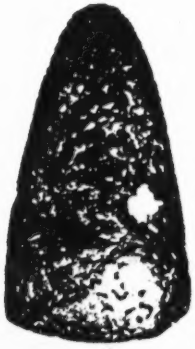

Fig. 199. Neolithic stone axe known to the Tuareg as *tafeft n afarau*. Used as whetstone for iron knives. Ahaggar, the *Afuh-as-tehlé* tribe. Dimension: 0.10 m long. (F.M. 109).

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

*342 [166] [197] B.1.e. A tent which has only one arch. I have once seen a tent like this in a blacksmith's camp close to Agadez, and several in a camp of former Ahaggar Tuareg of the *Tégehé-n-Efis* tribe in Northern Ayr. As this less elaborate structure seems among these Tuareg to constitute a fixed type I shall describe its main elements and the terms used for them which differ slightly from those used in the *Kel Ferwan* group, because the Ahaggar Tuareg living in Ayr even to-day largely speak their old Ahaggar dialect:— (1) A wooden arch at right angles to the longitudinal direction; it is called *aġeġu* (pl. *iġeġan*). (2) Two horizontal cross-bars known as *éseger* (sing. *isgar*). (3) Forked sticks called *tiġettewin* (sing. *tégettewt*) to support the horizontal cross-bars. There are only two forked sticks for each of the two cross-bars. (4) Slender rods forming semi-arches along the longitudinal direction; these are known as *ilellewatin* (sing. *alellewa*). This very simple structure is covered with mats much like other mat tents, the mats being known collectively as *asala* (pl. *isalan*).

Two very particular types of mat tents differing greatly from the above remain to be mentioned:—

● [484] B.1.f. During migrations when the members of a camp remain only one or two days on the same spot, they do not always erect mat tents. But they have to do so throughout the rainy season, when the tents are sometimes erected in a very peculiar way:— The two horizontal cross-bars are placed parallel to one another, each of them resting upon two forked sticks. The distance between the two cross-bars is about one metre, and the height of the two pairs of forked sticks is about 1.50 m. The rest of the elements constituting the normal tent structure, that is the bundles of arches and semi-arches, is not untied. The parcels made up of these elements are leaned against the horizontal cross-bars, and the whole is thereupon covered with mats. The tent erected in this way is a very small one, just big enough for the large wooden bed (*tédabut*). The tent thus erected is known as *tafala*.

[184] B.1.g. The tent to be mentioned is known as *éhen* like the normal barrel-vaulted mat tents, but it is nevertheless of beehive shape. This type of dwelling, however, is not used among the Ayr Tuareg, and I have only seen it once in the camp of the *Kel Geres* drum-chief, where many slaves lived in small mat tents of beehive shape. The structure is made of slender, unfashioned boughs which are fixed in the ground and tied together at their tops. But the arrangement is not a fortuitous one. It would seem that these dwellings have a particular structure: two arches placed parallel to each other and four slender arches passing over the two first arches at a right angle. This structure is covered with mats plaited from dum palm leaves. The tents are very low with a height of about 1.50 m, and their diameter does not exceed 2.00 m. Portable tents of beehive shape are unknown to true pastoral Tuareg.

Mat tents of arch construction are known outside the regions inhabited by the Ayr Tuareg and the *Kel Geres*. They seem to occur throughout Southern Tuareg country, but are less common further west than among the *Kel Ayr* and the *Kel Gęres*. The great majority of the pastoral Ayr Tuareg live in mat tents, and it is not correct to speak of this type of portable dwelling as typical of the *Kel Ewey* as frequently happens in literature. As to the *Kel Geres* they claim that all pastoralists of their group have mat tents. On the occurrence of mat tents outside the *Kel Ayr* and the *Kel Geres* I have gathered the following information from literature:—

A mat tent of arch construction is described by Nicolas from the *Kel Dennek* Tuareg around *Tawa*. It is called *awaġwaġ* or *awarwār* (*éwerwer*) because it is covered with mats of this particular type (cf. p. 350 f.). A tent of this nature is 6–7 metres long and 4–5 metres broad. The tent has four, three,

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25
Songhai MS20

T 133 484 492

Fig. 266. Three mat tents, three heavy wooden beds, and the household utensils belonging to three households are moved by means of six donkeys. Ayr, the *Imezzureg* tribe.

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from the north from very ancient times (cf. p. 412), and, according to Rouch, we find that mat-covered barrel-vaulted huts do not constitute the traditional type of dwelling of all Sonray, but are found along the Niger between Timbuktu and Asongo, while the Sonray living outside of this area have other dwelling types (cf. Rouch 1954, p. 31). Thus we see that Sonray mat-covered arched dwellings are found precisely within the area which has been most strongly influenced by Tuareg culture, namely the upper part of the Niger Bend. It can be added that such dwellings do not seem to be typical of other African peoples who lead a predominantly sedentary life. Furthermore, Sonray mat-covered barrel-vaulted dwellings are built by the women, who are also the true owners of the huts (cf. Rouch 1954, p. 31). In this we find another parallel to traditional Tuareg custom.

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We see again how wrong it is to speak of the Ayr Tuareg mat tent as a dwelling particular to the *Kel Ewey*, for such mat-covered tents are used by most Ayr Tuareg from the northern outskirts of the Massif to Damergu; it is said to be used exclusively by the *Kel Geres*; it is known among certain *Kel Dennek*, among the *Iwllemmeden Kel Ataram* and their *Bélla*, and apparently even in the southernmost parts of the *Kel Adrar* country. Arched mat tents on the southern outskirts of the very vast area inhabited by Tuareg occur in an almost unbroken line in a huge semicircle running from Northern Ayr to Timbuktu.

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This distribution may perhaps indicate that the mat tent is of very ancient standing among the Tuareg. We have mentioned above that the mat-covered arched dwellings of the Sonray may have been adopted by these people through contact with the Tuareg, and it does not seem as if the latter adopted their arched mat tents as a result of contact with other Sudanese peoples who use barrel-vaulted dwellings. Barrel-vaulted dwellings are not common in the Western Sudan, but are found among certain pastoralists whose arched huts and tents are structurally very different from the barrel-vaulted Tuareg mat tent. This appears from literature about the *Fulani* and the *Toucouleurs* (cf. Urvoy

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

1952, pl. II, 4; Desplagnes 1907, pl. CVI p. 396). Various pastoralists within the huge area of Tibesti, Borku, and Ennedi also use barrel-vaulted mat-covered tents. These are very different from Tuareg mat tents (cf. Biasutti 1933, Fig. 2, p. 173; Despois 1946, pl. XXII; Le Coeur 1937, p. 39 & 1950, p. 192, pl. XXVI, 99; Schiffers 1957, pl. IV; Kronenberg 1959, pl. III; Fuchs 1961, p. 18 ff., pl. IV). However, a mat tent described in detail by Chapelle has a structure which includes pronged sticks and horizontal bars (Chapelle 1957, p. 227 ff.), and a Tebu tent from Bilma now in the IFAN Museum at Niamey resembles the mat-covered Ayr tent in having two horizontal cross-bars at the narrow sides – each bar resting upon seven vertical pronged sticks.

We presume that Tuareg mat tents constitute a very ancient and traditional type of dwelling, which, perhaps, was originally covered with mats of grass-stems (cf. p. 350 f.). We venture to advance this theory, the more so as other types of Tuareg tents less elaborate in their structures show very close affinities with the arched mat tent. Our theory, however, gives rise to one important question:— Is the elaborate structure of Tuareg mat tents well fitted to pastoral life?

It is evident that some of the Tuareg, who live in mat tents, and notably the *Bélla*, are semi-nomads, and Capot-Rey says that "– – les populations qui l'ont adoptée ne se deplacent presque plus; – –" (Capot-Rey 1953a, p. 222). This is not correct. Mat tents like that described in B.I.a. are used by true nomads, who move much during the rainy season to find the best annual pasture for their domestic animals. At that season many pastoralists move their camps of barrel-vaulted tents about once a week, and though some of them prefer to erect their tents according to the simple *tafala* method (cf. B.I.f., p. 356), most nomads will erect the tent in the ordinary fashion. It may be added that even the *Kel Geres* who come to Southern Ayr at the end of the rains have with them their mat tents which they erect correctly. There are, it is true, many Tuareg possessing mat tents who remain almost on the same spot throughout the year, but this is equally true of many Tuareg with skin tents. The mat tent is a true pastoral dwelling type. It is not very difficult to put up though it takes more time than does the erection of most skin tents. It is also not very difficult to transport the comparatively elaborate structure of normal mat tents. With few exceptions the pastoral *Kel Ayr* who live in and around the Massif use donkeys for tent transportation. The light tent mats are simply used as a kind of pack-saddle, being rolled up and placed over the back and along both sides of the pack-animal. The curved boughs and rods which form arches and semi-arches, and the comparatively few vertical sticks with the two cross-bars are tied up into parcels which are fastened over the mats at the animal's sides. I have frequently seen a tent, together with the very heavy wooden bed (*tédabut*) and various domestic utensils, being transported by two donkeys, and a normal tent can be transported by a single donkey without much difficulty. As a further indication of this I produce a photograph showing the movement of a camp comprising three ordinary tents, three wooden beds, and the necessary household implements and provisions, and it will be seen that all this is transported by six donkeys (cf. Fig. 266). On the whole, an ordinary mat tent is neither very difficult to erect, nor difficult to transport. It is more difficult to erect the mat tent than the skin tent, but skin tents very often constitute a heavier burden. The sheet of skin, or more correctly leather, is heavier than the covering of mats, and though it is true of many skin tents that they have a less elaborate structure than the mat tents, the former need a system of pegs and poles to fasten the sheet, and these have to be transported except where

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

THE KEL FERWAN DRUM-GROUP

Lists of tribes which belong to the *Kel Ferwan* drum-group have already been published. Jean has fourteen in his list (Jean 1909, p. 104), Rodd and Abadie have fifteen (Rodd 1926a, p. 427 f.; Abadie 1927, p. 391 f.), while Nicolas puts twenty-two tribes in the group (Nicolas 1950b, p. 474 f., 480). My own list comes close to that of Nicolas, but contains a few additional names. I have divided my list in two parts, as there were within the *Kel Ferwan* drum-group two important noble tribes each with a group of particular vassals. The traditional grazing grounds of the important tribes in the past are also indicated. I have not been able to get precise particulars about the size of tribes, and therefore quote the figures given by Nicolas (Nicolas 1950b, p. 474 f.). The tribes differ greatly in size, ranging from 653 to 42 individuals. The average figure for a tribe is about 250.

The traditional political structure of the *Kel Ferwan* drum-group has almost completely disappeared, and it seems as if the ancient rules were in decay shortly after the French occupation of Ayr when the Sultan became strongly supported by the administration. Since the rebellion against the French in 1917, political life has become completely altered and the traditional political structure has had to be reconstructed. I have tried to make a reconstruction of this nature by my investigations in Ayr, where I had a number of old men as informants on this particular subject. My investigations were most difficult because many Tuareg would often ascribe their tribe, their class, and their drum- group a far higher political importance than it seemed to have had. However, I found a few old vassals who seemed to be able to tell about the past without much prejudice, and I believe that I obtained a fairly correct description of ancient political life within the *Kel Ferwan* drum-group.

The two noble tribes of the *Kel Ferwan* drum-group, namely the proper *Kel Ferwan*, or *Irawatten*, and the *Kel Azel*, have certain traditions about their origin in addition to those mentioned above (p. 413 f.). The noble *Kel Ferwan* (the *Irawatten*) sometimes say that the ancestress of the *Kel Azel* married an Arab who was killed at her own request, but there is another and more general tradition

Fig. 288. The palace of the Sultan of Ayr at Agadez. The Sultan has just returned from a short journey out of town and musicians including three drummers mounted on camels (left) are playing in his honour.

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

Fodder Plants of Ahaggar

The most valuable fodder plants in Ahaggar are mentioned in the lists below where my own material has been supplemented with information collected by Maire and published in his valuable study of vegetation of the Central Sahara (Maire 1933 & 1940). The abridgements *Tr.*, *L.M.*, and *U.M.* refer to Maire's botanical zones:— the *Tropical Zone*, the *Lower Mediterranean Zone*, and the *Upper Mediterranean Zone*, while the letters *a*, *b*, and *p* stand for "annual", "biennial", and "perennial" plants.

FODDER PLANTS OF CAMELS, SHEEP, AND GOATS

tahlé (*Typha elephantina*). Tr. p. Young shoots eaten by sheep and goats. Generally not eaten by camels. Maire gives similar information (Maire 1933, p. 52).

ébestew (*Imperata cylindrica*). Tr., L.M. p. Not much eaten by camels (Maire 1933, p. 54).

ḍzereg (*Rottboellia hirsuta*). Tr. p. "Excellent pâturage en hiver, tant pour les chameaux que pour les ovins, caprins et autres herbivores (Voinot)" (Maire 1933, p. 54).

téberimt (*Andropogon laniger*). Tr., L.M. p. "Cette plante est mangée par les chameaux" (Maire 1933, p. 55).

afeẓu (*Panicum turgidum*). Tr., L.M. p. Very important fodder plant for all animals – particularly when green. The green grass is cut by the Tuareg who give it to their riding camels resting in the camp. – "La plante est un élément important de la nourriture des chameaux" (Maire 1933, p. 58).

talenfeẓut (*Pennisetum dichotomum*). Tr. a. & p. (cf. Gram 1935, p. 57). "Cette plante est mangée par tous les herbivores domestiques" (Maire 1933, p. 58).

aremmud (*Aristida plumosa*). Tr. a. & p. According to Gram perennial (Gram 1935, p. 54), according to Maire generally annual in the Central Sahara, while perennial in the Northern Sahara (Maire 1933, p. 61). An important fodder plant for all animals. – "Elle constitue un excellent fourrage pour les chameaux" (Maire 1933, p. 61).

tullult (*Aristida pungens*). Tr. p. Found in lower parts of the tropical zone, particularly on the northern outskirts of Ahaggar (including Ahnet) and in Tassilé-n-Ajjer. A very important fodder plant for all domestic animals. The Tuareg cut it green, or dry, to use it as fodder for their camels on caravan journeys through barren desert country (e.g., on journeys from Ahaggar to Tidikelt). – "Elle constitue, particulièrement au moment de la floraison, un excellent fourrage pour les chameaux et les autres herbivores domestiques" (Maire 1933, p. 62).

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